

REMARKS

Claims 3-4 are pending in the application. Claims 3-4 were rejected under 35 U.S.C. §112, first paragraph as described on pages 2-3 of the Office Action. Claims 3-4 were rejected under 35 U.S.C. §103(a) as described on pages 3-4 of the Office Action. Claim 3 is the only independent claim.

Claim 3 has been amended to place the claim in compliance with 35 U.S.C. § 112, first and second paragraphs and in general, to place the claim in better U.S. form. Accordingly, it is respectfully requested that the rejection of claims 3-4 under 35 U.S.C. § 112, first and second paragraphs be withdrawn.

It is respectfully submitted that claim 3-4 are patentable over the prior art of record for the following reasons.

In accordance with a forging method of the present invention, an obtained metallographical texture is a fine ferrite-perlite structure. Furthermore, at least one kind of Group VB metals is added to the fourth material precipitates as fine carbon nitrides. Accordingly it becomes possible to set a high yield point (YP value) with a high rigidity and a strong resistance to impact load because of a fine metallographical structure of fine ferrite + perlite. Therefore, it is possible to reduce the weight of forged products, control the tensile strength (TS)-low, and improve workability in machining, and thus promote reduction of the manufacturing cost of forged products.

Claim 3 is drawn to a method of forging a material. The method of claim 3 comprises adding a second material to steel to obtain a third material, heating the third material, forging the heated third material, cooling the forged third material, holding the cooled forged third material and cooling the cooled forged material. More particularly, the cooling the cooled forged material of claim 3 is required to comprise “**cooling the cooled forged material to a normal temperature by natural cooling, so that carbon and nitrides that include the second material precipitate on the steel.**”

It is respectfully submitted that neither Hasegawa et al. (Hasegawa) nor Takahashi et al. (Takahashi), either singly or in combination, teaches the above identified limitation.

Hasegawa is drawn to a low-carbon-ferritic heat-resistant steel having excellent welding properties. Takahashi is drawn to a hot forged steel of ferrite-bainite structure. Both the processing

method and the metallographical texture of the materials disclosed in each of Hasegawa and Takahashi are different from the metallographical texture obtained by the forging method of the present invention.

More importantly, as discussed above, neither Hasegawa nor Takahashi teaches cooling a cooled forged material to a normal temperature by natural cooling, so that **carbon and nitrides** that include a second material may precipitate on steel, as required in independent claim 3.

For the reasons discussed above, it is respectfully submitted that claim 3 is patentable over the prior art of record within the meaning of 35 U.S.C. § 103. Furthermore, as claim 4 is dependent upon claim 3 and therefore includes all of the limitations thereof, it is respectfully submitted that claim 4 is additionally patentable over the prior art of record within the meaning of 35 U.S.C. § 103.

Having fully and completely responded to the Office Action, Applicants submit that all of the claims are now in condition for allowance, an indication of which is respectfully solicited.

If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

Respectfully submitted,

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